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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/845,933      | 04/30/2001  | Bruce Leroy Beukema  | ROC920010009US1     | 3353             |

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EXAMINER

SWEARINGEN, JEFFREY R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2145

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/845,933

Applicant(s)

BEUKEMA ET AL

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. (U.S. Patent No. 6,308,238 B1).
4. In regard to claim 1, Smith disclosed *communicating a port identifier from a first node to a second node coupled to the first node over a point-to-point network, wherein the first node includes a plurality of network ports and a plurality of communication registers, wherein each network port is configured to directly couple to an adjacent node in the clustered computer system over a point-to-point interconnect in the point-to-point network, wherein each communication register is dedicated to an associated network port among the plurality of network ports and is configured to store data received over such associated network port, and wherein the port identifier identifies a network port among the plurality of network ports to which the second node is coupled to the first node; and communicating data from the second node to the first node by initiating a write operation on the first node using the second node to store the data in the communication register associated with the network port identified by the port identifier.* Smith, column 3, line 64 – column 4, line 65; column 5, lines 16-32; column 13, lines 29-49; column 14, lines 8-54.

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5. In regard to claim 2, Smith disclosed *detecting in the first node the storage of data in the communication register associated with the network port identified by the port identifier*. Smith, column 14, lines 13-15.

6. In regard to claim 3, Smith disclosed *generating an interrupt on the first node in response to detecting the storage of data in the communication register associated with the network port identified by the port identifier*. Smith, column 14, lines 15-25.

7. In regard to claim 4, Smith disclosed *processing the interrupt by processing the data stored in the communication register associated with the network port identified by the port identifier, and clearing the interrupt*. Smith, column 14, lines 26-34.

8. In regard to claim 5, Smith disclosed *detecting the storage of data comprises detecting a non-zero value stored in any of the plurality of communication registers, and wherein clearing the interrupt comprises resetting the plurality of communication registers to zero values*. Smith, column 14, lines 20-34.

9. In regard to claim 6, Smith disclosed *sequentially storing a plurality of commands in the communication register associated with the network port identified by the port identifier, the method further comprising processing each of the plurality of commands in the first node*. Smith, column 14, lines 44-49.

10. In regard to claim 7, Smith disclosed *initiating, with the second node, a read operation for a configuration register in the first node, wherein communicating the node identifier is performed in response to the read operation*. Smith, column 14, lines 10-21.

11. In regard to claim 8, Smith disclosed *communicating the node identifier is performed in response to a read request sent over the point-to-point network by the second node*. Smith, column 14, lines 10-21.

12. In regard to claim 9, Smith disclosed *the plurality of communication registers are allocated a range of register addresses in a register address space for the node, and wherein communicating the data comprises sending a write request to the register address of the communication register associated with the network port identified by the port identifier*. Smith, column 14, lines 35-54.

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13. In regard to claim 10, Smith disclosed *a plurality of network ports, each configured to couple a first node from a clustered computer system to another node in the clustered computer system over a point-to-point network; a plurality of communication registers, each dedicated to an associated network port among the plurality of network pots and configured to store data received through such associated network port; and a control circuit coupled to the plurality of communication registers and configured to automatically notify the first node in response to storage of data in any of the plurality of communication registers.* Smith, column 3, line 64 – column 4, line 65; column 5, lines 16-32; column 14, lines 8-54.

14. In regard to claim 11, Smith disclosed *the control circuit is configured to detect the storage of data in a communication register among the plurality of communication registers by detecting a non-zero value stored in such communication register.* Smith, column 14, lines 8-54.

15. In regard to claim 12, Smith disclosed *the control circuit is configured to automatically notify the first node by generating an interrupt.* Smith, column 14, lines 15-25.

16. In regard to claim 13, Smith disclosed *the control circuit is configured to generate a common interrupt for all of the plurality of communication registers.* Smith, column 14, lines 15-25.

17. In regard to claim 14, Smith disclosed *each communication register includes a plurality of binary outputs, and wherein the control circuit comprises at least one logic gate configured to generate an interrupt signal by performing a logical-OR operation on all of the binary outputs of the plurality of communication registers.* Smith, column 14, lines 15-25.

18. In regard to claim 15, Smith disclosed *the control circuit is further configured to output a port identifier over a first network port among the plurality of network ports in response to a read request received over the first network port, the port identifier identifying the first network port as the network port from which the read request was received.* Smith, column 14, lines 15-25.

19. In regard to claim 16, Smith disclosed *a configuration register, wherein the control circuit is configured to output data stored in the configuration register in response to the read request.* Smith, column 14, lines 15-54.

20. In regard to claim 17, Smith disclosed *the plurality of communication registers are allocated a range of register addresses in a register address space for the node, and wherein the control circuit is*

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*configured to store data received over a first network port among the plurality of network ports in the communication register associated with the first network port in response to a write request addressed to the register address of the communication register associated with the network port identified by the port identifier.* Smith, column 14, lines 35-54.

21. Claim 18 is substantially the same as claim 10.

22. Claim 19 is substantially the same as claim 10.

23. Claim 20 is substantially the same as claim 10.

24. Claim 21 is substantially the same as claim 11.

25. In regard to claim 22, Smith disclosed a *plurality of nodes, each node including a plurality of network ports; a plurality of communication registers, each dedicated to an associated network port among the plurality of network ports and configured to store data received through such associated network port; and a control circuit coupled to the plurality of communication registers and configured to automatically notify such node in response to storage of data in any of the plurality of communication registers; and a plurality of point-to-point network interconnects, each coupled between a pair of nodes from the plurality of nodes through network ports on each of the pair of nodes.* Smith, column 3, line 64 – column 4, line 65; column 5, lines 16-32; column 14, lines 8-54.

### **Conclusion**

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27. Quinquis et al. US 4,434,463

28. Rubin US 4,539,652

29. James et al. US 6,374,316 B1

30. Wicklund US 6,295,295 B1

31. Pascucci et al. US 5,463,735 B1

32. Enstrom US 5,530,895

33. Malladi US 5,598,541

34. Gallagher et al. US 5,675,735


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- |     |                  |              |
|-----|------------------|--------------|
| 35. | Gallagher et al. | US 5,809,253 |
| 36. | Traeger          | US 5,978,569 |
| 37. | Keaveny et al.   | US 6,065,087 |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SALEH NAJJAR**  
SUPERVISORY PATENT EXAMINER

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